

ABSTRACT OF THE DISCLOSURE

5 A method of manufacturing a semiconductor device including an interconnection and a capacitor formed with a Cu layer in accordance with the present invention includes the steps of forming an interlayer insulation layer, forming an interconnection hole and a capacitor hole in the interlayer insulation layer, filling the interconnection hole with the Cu layer to form an interconnection layer, and partly filling the capacitor hole with the Cu layer to form one electrode of the capacitor. The step of filling the interconnection hole with the Cu layer to form the interconnection layer and 10 the step of partly filling the capacitor hole with the Cu layer to form one electrode of the capacitor are performed in a single process step. Thus, manufacturing process of the semiconductor device can be simplified.